

CLAIMS

I claim:

1. A process for forming oversized circular pipe comprising:

affixing an elliptically-shaped forming head onto a spiral pipe forming machine;

driving a metal strip along said elliptically-shaped forming head such that said metal strip takes on a shape of said elliptically-shaped forming head;

moving said metal strip out of said elliptically-shaped forming head into a spiral pattern such that edges of said metal strip engage with each other so as to form an elliptically-shaped spiral pipe;

removing said elliptically-shaped spiral pipe from said spiral pipe forming machine; and

forming said elliptically-shaped pipe into a circular pipe.

2. The process of Claim 1, said elliptically-shaped forming head having a shape that said circular pipe has a diameter of greater than forty-eight inches.

3. The process of Claim 1, further comprising:

placing a frame adjacent to said spiral pipe forming machine; and

positioning rollers on said frame so as to rollably contact an exterior surface of said elliptically-shaped spiral pipe.

4. The process of Claim 1, said step of affixing comprising:

affixing a cross bar across said elliptically-shaped forming head;

securing a beam in a fixed position relative to said cross bar; and

connecting said beam to said cross bar.

5. The process of Claim 1, said step of affixing comprising:

positioning a portion of said elliptically-shaped forming head of sharpest curvature at a bottom of said elliptically-shaped forming head; and
affixing said portion to said spiral pipe forming machine.

6. The process of Claim 5, said spiral pipe forming machine having a frame portion spaced from said portion of said sharpest curvature, the process further comprising:

calculating a shape of said elliptically-shaped forming head such that said forming head does not contact and is spaced from said frame portion.

7. The process of Claim 1, said step of forming said elliptically-shaped spiral pipe into a circular pipe comprising:

joining an end of said elliptically-shaped spiral pipe onto an end of a section of circular pipe.

8. The process of Claim 1, further comprising the step of:

adjusting a diameter of said elliptically-shaped forming head such that said circular pipe is of a desired diameter.

9. The process of Claim 8, said step of adjusting the diameter comprising:
 - forming a first break on one side of said elliptically-shaped forming head;
 - forming a second break on an opposite side of said elliptically-shaped forming head;
 - placing a first insert element between edges of said elliptically-shaped forming head at said first break; and
 - placing a second insert between edges of said elliptically-shaped forming head at said second break, each of said first and second inserts having an interior surface flush with an interior surface of said elliptically-shaped forming head at said first and second breaks, respectively.
10. The process of Claim 9, further comprising:
 - affixing a first flange at one edge of said first break;
 - affixing a second flange at another edge of said first break;
 - forming said first insert element so as to have a third flange extending outwardly therefrom and a second flange extending outwardly therefrom in parallel relationship to said third flange; and
 - positioning said first insert element between edges of said elliptically-shaped forming head at said first break such that said third flange is juxtaposed against said first flange and such that said fourth flange is juxtaposed against said second flange.

11. The process of Claim 10, further comprising:

- bolting said first flange to said third flange; and
 - bolting said second flange to said fourth flange.

12. The process of Claim 1, said circular pipe having a diameter of 100 inches, said elliptically-shaped forming head having a narrow diameter of 85 inches and a wide diameter of 114 inches.

13. A forming head apparatus for forming oversized circular pipe comprising:
a rigid elliptically-shaped body having an exterior surface and an interior surface; and

a means for securing said elliptically-shaped body to a circular pipe forming machine such that said elliptically-shaped body has a sharp curvature at a bottom end thereof and at the circular pipe forming machine.

14. The apparatus of Claim 13, further comprising:
a frame with rollers rollably mounted thereon, said rollers for rollably contacting a surface of the circular pipe.

15. The apparatus of Claim 13, said elliptically-shaped body having a cross bar affixed thereto and extending thereacross, said cross bar affixed to a beam extending to a parallel relationship thereto, said beam being anchored outwardly of the circular pipe forming machine.

16. The apparatus of Claim 13, said rigid elliptically-shaped body having a minimum diameter of greater than forty-eight inches.

17. The apparatus of Claim 13, said body having a first break formed on one side thereof and a second break formed on an opposite side thereof, the apparatus further comprising:

a first insert element removably positioned between edges of said body at said first break; and

a second insert element removably positioned between edges of said body at said second break.

18. The apparatus of Claim 17, said body having a first flange extending outwardly of said exterior surface adjacent one of the edges at said first break and a second flange extending outwardly of said exterior surface adjacent another edge of the edges of said first break, said first insert element further comprising:

a third flange affixed to said first insert element at a top thereof; and

a fourth flange affixed to said first insert element at a bottom thereof, said third flange being secured to said first flange, said fourth flange being secured to said second flange such that an interior surface of said first insert element is flush with said interior surface of said body.

19. The apparatus of Claim 18, said first and third flanges having at least one bolt extending therethrough and secured thereto, said second and fourth flanges having at least one bolt extending therethrough and secured thereto.

20. The apparatus of Claim 13, further comprising:

a metal strip extending along said interior surface of said forming head and extending outwardly therefrom in a form of an elliptically-shaped spiral pipe, spiral pipe having a diameter of greater than forty-eight inches.